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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,189	07/31/2003	Claudia A. Iannotti	10021017-1	1422

7590 12/20/2007  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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CROW, ROBERT THOMAS

ART UNIT	PAPER NUMBER
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1634

MAIL DATE	DELIVERY MODE
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12/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<p align="center"><b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b></p>	<b>Application No.</b> 10/631,189	<b>Applicant(s)</b> IANNOTTI ET AL.	
	<b>Examiner</b> Robert T. Crow	<b>Art Unit</b> 1634	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 03 December 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
 b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
 (b) ☐ They raise the issue of new matter (see NOTE below);  
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
 5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
 6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
 7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
 The status of the claim(s) is (or will be) as follows:  
 Claim(s) allowed: None.  
 Claim(s) objected to: None.  
 Claim(s) rejected: 1-9, 24 and 26-37.  
 Claim(s) withdrawn from consideration: None.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
 10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see Attachment.  
 12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
 13. ☐ Other: \_\_\_\_\_

/Jehanne Sitton/  
Primary Examiner



12/14/2007

*Attachment*

1. For the purposes of appeal, the proposed amendment(s) filed 3 December 2007 will be entered and the proposed rejection(s) detailed below will be included in the Examiner's Answer. To be complete, such rejections must be addressed in any brief on appeal.

2. Claims 10-23 (canceled in previous amendments) and claim 25 (cancelled in the present amendment) are canceled.

3. Upon entry of the amendment(s) for purposes of appeal:

A. Claims 1-6 would be rejected for the reasons set forth in Section 5 of the final Office Action mailed 1 October 2007, including the reasons set forth below which address the new limitation of detection of binding RNA to the silicon carbide column and eluting RNA from the silicon carbide, presented in newly amended claim 1, and Applicant's arguments regarding the teachings of the prior art of record.

I. In the present amendment, nucleic acids comprising RNA are bound to a silicon carbide column. Haj-Ahmad specifically teaches silicon carbide columns are used to isolate RNA (Abstract, Figure 5, and Example 8). Thus, when the cited references are combined, the column of Qiagen provides an effluent substantially free of genomic DNA (Page 33 and Table 1 on page 5). The second column is suggested by the '972 reference, and is not relied upon for any specific resin. The specific type of column (i.e., silicon carbide "whiskers") suggested by the '278 reference of Haj-Ahmad binds to nucleic acids (Abstract), which are then eluted, and the nucleic acids are RNA (Example 8). Thus, each and every limitation of the claims is met by the cited prior art.

II. Applicant's traverses the rejection of claim 1-6 on page 7 of the response filed 3 December 2007 (i.e., the "Remarks") by arguing that because Qiagen teaches a column isolates RNA from a sample, there would be no need to prefilter the lysate or contact the effluent to a silicon carbide whisker column.

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However, as detailed in the rejections presented in Section 5 of the Final Office action, the column of Qiagen is the claimed prefiltration column. Thus, no prefiltration is performed before contacting with the Qiagen column because the Qiagen column is the claimed prefiltration column.

In addition, as also noted in the previous rejections, it is Avjioglu et al that teaches a second column (i.e., that would be obvious to follow the pre-filtration column of Qiagen with) is advantageous because a second column increases the purity of a sample. Thus, utilization of a second column as taught by Avjioglu et al is motivated by the ability to increase the purity of the RNA sample obtained from the original sample. In addition, it would have been obvious to the ordinary artisan that the known technique of using the second column of Avjioglu et al could have been applied to the method of Qiagen with predictable results because the second column of Avjioglu et al predictably results in further purification of the RNA sample.

Further, as noted in the previous rejections, Qiagen also teaches the column comprises a frit (page 11, third paragraph). The frit is a layer. Webster's defines a frit as comprising glass (page 912); thus, Qiagen teaches a glass layer in the form of a frit.

III. Applicant further argues on page 7 of the Remarks that because the filter of Qiagen is an anionic column, Qiagen does not teach or suggest binding genomic DNA to the glass or borosilicate filter.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., binding to the glass or borosilicate layer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim requires a column comprising a filter material, which has at least one layer of glass or borosilicate fiber, and that genomic DNA bind to the filter material. This does not necessarily require binding to the glass or to the borosilicate fiber. The filter

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material of Qiagen comprises at least two layers in the form of the glass frit and the resin. The genomic DNA binds the filter material because it at least binds the resin, which is part of the filter material.

Further, the DNA would bind, at least somewhat, to the glass frit of Qiagen as evidenced by Haj-Ahmad, which teaches that "it is known that DNA will bind to silicon-containing material such as glass slurries (column 1, lines 37-40)." Thus, the genomic DNA would bind to the glass frit as well.

IV. Applicant argues on page 7 of the Remarks that the filter is not necessary in the column of Qiagen.

However, as noted above, the column of Qiagen does in fact have the filter in the form of the frit.

V. Applicant further argues on page 7 of the Remarks that the claimed method involves one column that binds genomic DNA and does not bind RNA.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a column that binds genomic DNA and does not bind RNA) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. The claim merely requires genomic DNA to be bound to the filter, and that RNA is eluted from the column. The claim does not require RNA to flow through the column without binding to the column.

VI. Applicant argues on page 7 of the Remarks that the '972 patent (i.e., Avjioglu et al) does not teach a prefiltration column comprising glass or borosilicate filters, or contacting an effluent with a silicon carbide whisker column.

However, as noted in the previous rejections, the '972 patent is merely relied upon for the motivation to further purify a sample with a second column.

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VII. Applicant argues on page 8 of the Remarks that the '278 patent (i.e., Haj-Ahmad) does not teach a prefiltration column.

However, as noted in the previous rejections, the '278 patent is merely relied upon for the material of the second column, wherein teaching and motivation for providing a second column is taught by the '972 patent.

VIII. Applicant further argues on page 8 of the Remarks that the '972 patent teaches silicon carbide grit rather than whiskers, which have a lower surface area.

However, as noted in the previous rejections, the specification does not define what is encompassed by the term "whisker." Thus, while neither Qiagen, Avjioglu, nor Haj-Ahmad specifically teach silicon carbide "whiskers," Haj-Ahmad does teach the preferred embodiment wherein the silicon carbide has an average particle size of 4.5 microns (column 4, lines 1-3). Because the specification does not define what is encompassed by the term "whisker," the term "whisker" has therefore been interpreted to be encompassed by the preferred embodiment of Haj-Ahmad, wherein the silicon carbide particles have an average particle size of 4.5 microns (column 4, lines 1-3). Thus, the claim has been given the broadest reasonable interpretation consistent with the specification regarding "whiskers" (*In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) (see MPEP 2111 [R-1])).

In addition, the courts have held that "where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device." (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), (see MPEP 2144.04, IVA). In the event that the instantly claimed "whiskers" are not encompassed by the micron sized particles of Haj-Ahmad, the instantly claimed "whiskers" would therefore merely be a form of silicon carbide having different relative

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dimensions than those of the prior art, and as such are not patentably distinct from the particles of Haj-Ahmad.

Further, MPEP 716.01(c) makes clear that "[t]he arguments of counsel cannot take the place of evidence in the record" (*In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965)). Thus, the assertion by Applicant's representative on page 8 of the Remarks that the "whiskers" have a different surface are cannot take the place of the evidence on the record.

In addition, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a specific surface area of the silicon carbide) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. Applicant's citation of page 8 of the specification merely states that the silicon carbide or Haj-Ahmad has "a relatively low surface area." Applicant has not indicated any recitation in the specification, nor has specifically claimed, any physical dimensions or structural characteristics of the claimed "whiskers" to distinguish the claimed whiskers from the prior art of record.

Furthermore, Haj-Ahmad specifically teaches that "[s]ilicon carbide is available in a variety of grit grades or sizes, and each grade has a different capacity for binding nucleic acids" (column 2, lines 30-40; emphasis added by examiner), and that any grade of silicon carbide is used in the method (column 2, lines 30-40). Thus, Haj-Ahmad clearly suggest the use of different sizes of silicon carbide and that the different sizes would have different nucleic acid binding capacities, and the use of a "whisker" is therefore obvious over the prior art.

IX. Applicant argues on page 8 of the Remarks that there is no reason to combine the references because the references each teach references that are not interchangeable.

However, the rejections do not rely on interchanging the resins. As detailed in the previous rejections, Qiagen teaches a first column having a glass layer, in the form of a frit that prepares a sample

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substantially free of genomic DNA because the buffer and column elute RNA by not genomic DNA (Page 33 and Table 1 on page 5); thus, the first effluent is substantially free of genomic DNA. The '972 reference is merely relied upon for the teaching and motivation to run a second column to further purify the sample, and is not relied upon for any specific resin. The '278 reference is relied upon for a specific type of column (i.e., silicon carbide "whiskers") that is used as the second column and is not relied upon for removal of genomic DNA because the column of Qiagen has already removed the genomic DNA.

B. Claim 7 would be rejected for the reasons set forth in Section 6 of the final Office Action mailed 1 October 2007, including the reasons set forth below which address the new limitation of detection of binding RNA to the silicon carbide column and eluting RNA from the silicon carbide, presented in newly amended claim 1, and Applicant's arguments regarding the teachings of the prior art of record.

Applicant's arguments regarding claim 7 on pages 8-9 of the Remarks rely on arguments set forth to traverse the rejection of claims 1-6. The response to the arguments is presented above in Section A. Since the arguments regarding claim 1-6 were not persuasive, the rejection of claim 7 is maintained.

C. Claim 8 would be rejected for the reasons set forth in Section 7 of the final Office Action mailed 1 October 2007, including the reasons set forth below which address the new limitation of detection of binding RNA to the silicon carbide column and eluting RNA from the silicon carbide, presented in newly amended claim 1, and Applicant's arguments regarding the teachings of the prior art of record.

Applicant's arguments regarding claim 8 on page 9 of the Remarks rely on arguments set forth to traverse the rejection of claims 1-6. The response to the arguments is presented above in Section A. Since the arguments regarding claim 1-6 were not persuasive, the rejection of claim 8 is maintained.



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D. Claim 9 would be rejected for the reasons set forth in Section 8 of the final Office Action mailed 1 October 2007, including the reasons set forth below which address the new limitation of detection of binding RNA to the silicon carbide column and eluting RNA from the silicon carbide, presented in newly amended claim 1, and Applicant's arguments regarding the teachings of the prior art of record.

Applicant's arguments regarding claim 9 on pages 9-10 of the Remarks rely on arguments set forth to traverse the rejection of claims 1-6. The response to the arguments is presented above in Section A. Since the arguments regarding claim 1-6 were not persuasive, the rejection of claim 9 is maintained.

E. Claims 24 and 26-36 would be rejected for the reasons set forth in Section 9 of the final Office Action mailed 1 October 2007, including the reasons set forth below which address the new limitation of detection of binding RNA to the silicon carbide column and eluting RNA from the silicon carbide, presented in newly amended claim 24, and Applicant's arguments regarding the teachings of the prior art of record.

I. In the present amendment, nucleic acids comprising RNA are bound to a silicon carbide column. Haj-Ahmad specifically teaches silicon carbide columns are used to isolate RNA (Abstract, Figure 5, and Example 8). Thus, when the cited references are combined, the column of Qiagen provides an effluent substantially free of genomic DNA (Page 33 and Table 1 on page 5). The second column is suggested by the '972 reference, and is not relied upon for any specific resin. The specific type of column (i.e., silicon carbide "whiskers") suggested by the '278 reference of Haj-Ahmad binds to nucleic acids (Abstract), which are then eluted, and the nucleic acids are RNA (Example 8). Thus, each and every limitation of the claims is met by the cited prior art.

II. It is noted that Applicant's arguments on page 10 of the Remarks are directed to claims 24-36. However, claim 25 has been cancelled.

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III. Applicant's remaining arguments regarding claims 24 and 26-36 on page 10 of the Remarks rely on arguments set forth to traverse the rejection of claims 1-6. The response to the arguments is presented above in Section A. Since the arguments regarding claim 1-6 were not persuasive, the rejection of claims 24 and 26-36 is maintained.

F. Claim 37 would be rejected for the reasons set forth in Section 10 of the final Office Action mailed 1 October 2007, including the reasons set forth below which address the new limitation of detection of binding RNA to the silicon carbide column and eluting RNA from the silicon carbide, presented in newly amended claim 24, and Applicant's arguments regarding the teachings of the prior art of record.

Applicant's arguments regarding claim 37 on pages 10-11 of the Remarks rely on arguments set forth to traverse the rejection of claims 1-6. The response to the arguments is presented above in Section A. Since the arguments regarding claim 1-6 were not persuasive, the rejection of claim 37 is maintained.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert T. Crow whose telephone number is (571) 272-1113. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Robert T. Crow  
Examiner  
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A handwritten signature in black ink, appearing to read 'R. Crow', is positioned to the right of the printed name and title.